

# Some Travel Sites in the Mountains of Eastern Sinai

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## Abstract

The work presented here deals with geographical-geological sites in the mountains of eastern Sinai in Egypt. The mountains of eastern Sinai, are characterized also by very interesting geological formations. The geological section in that region includes granite rocks on its basis, above which appear several formations of sandstones, above which appear also hard limestone rocks. The region of eastern Sinai is also located, at a meeting point between the two following big geomorphological structures, which are also in perpendicular directions. The Syrian-African rift valley, whose direction is north-south. The E Tih cliff crosses central Sinai in the east-west direction. As a consequence of those geological-geomorphological characteristics, we can see in the mountains of eastern Sinai, also combinations of deep canyons with variety of several types of rocks, isolated mountains, and also valleys with several kinds of sandstones.

## Keywords

Desert, Granite, Hard Limestone, Mountain Tourism, Sandstones, Sinai

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## 1. Introduction

In the spring of 1981, the Society for Protection of Nature in Israel (SPNI), organized 2 tours to the northern part of the mountains region of eastern Sinai. In March 1981 we went to that region, as a group of guides of youth clubs of the SPNI at that time, in order to learn about that region, and also to know some travel routes in that region. We were led in that tour by Timi Ben-Yosef, who was one of the best experts of the geography of southern Sinai at that time. Timi Ben-Yosef during the 1970's, carried out the big survey of southern Sinai, which was organized then by the Israeli Nature Reserves Authority of those times (see description in [1], pp. 207-208). In April 1981, we took to that region many groups of the

youth clubs of the SPNI of those times, and guided them, in a 5 days' tour, which was very special, because most of its' route, was not accessible then to vehicles. That whole tour, was a hiking tour, where part of the luggage was carried then by camels. We started that tour from Nuweiba, climbed in evening walk, about 15 km in the ascent of the main wadi bed of Wadi Watir, where we reached Ein Furtaga around midnight of that day. In the following days we hiked in the area of the northern Jebel Baraka. That tour included the Arch Canyon, the Colors Canyon, the northern Jebel Baraka itself, and also Jebel Aradé. We turned then towards NE, to the tributaries of Wadi Malaha, Wadi Washwashi, and also afterwards back to the shore of the Gulf of Eilat. The written information about the region of that tour, is currently quite limited. Therefore, I would like to bring here some of the information, that I wrote in the preparation tour to that region that was carried out in March 1981, together also with some photos, that I took in both those tours, also for the coming generations.

The region of the mountains of eastern Sinai can be defined geographically, as a triangle with the following ribs. From its eastern side—the seashore of the Gulf of Eilat. From its northern side—the line which connects between Ein Netafim spring in the Eilat mountains and also E Tamed in central Sinai. From its western side—the line which connects between E Tamed and also Ras Muhammad, which is the southern edge of the Sinai Peninsula.

From the geological point of view, the mountains of eastern Sinai, are combined mainly of the 3 following types of rocks. In the basis—igneous rocks, there are mainly several types of Granite or metamorphic rocks. Right above the igneous rocks can be found red and also relatively hard sandstone, of the so called Netafim formation, which is parallel to the Um Ishrin red sandstone formation in the Transjordan [2]. That formation is also called: The lower variegated (multicolored) sandstone layer. Above the Netafim sandstone formation, there can be found white and also relatively soft sandstone, of the so-called Amir formation, which is parallel to the Disi formation in the Transjordan [2]. Above that white sandstone layer, there can be also found in some locations, an upper variegated (multicolored) sandstone layer. Above those sandstone layers can be found in the northern part of the mountains region of eastern Sinai, hard limestone cliffs, which combine also the highest parts of some mountains in that region.

In the region of eastern Sinai, the contact line between the Granite from its lower side, and also the lower variegated (multicolored) hard sandstone layer from its upper side, is called: The Peneplain line. The finding, that the peneplain line in that region is flat, indicates that the Arabo-Nubian massif in that region, was a flat plate (Ben-Yosef, lecture information, 1981). Since the Granite rocks from the lower side of that peneplain line, are almost impermeable to water, most of the water in that region, are trapped as underground water in that lower multicolored sandstone layer. In some locations those water go out of that sandstone layer, and also form springs. Therefore, the peneplain lines in some locations in the mountains of eastern Sinai, are also good habitats for organisms. The concentrations of vegetation in the mountains of eastern Sinai, can be seen, usually on some pene-

plain lines (Ben-Yosef, lecture information, 1981).

The region of eastern Sinai, is also characterized by including, the meeting area of the 2 following big geomorphological structures: 1) The Syrian-African fault, which forms the rift valley, which ranges from northern Syria to central Africa. The Gulf of Eilat is part of that rift valley. The direction of the rift valley in that region is North-South. 2) The E Tih cliff, which crosses the Sinai Peninsula from west to east, or from east to west, in latitudes of about 10 km - 20 km south of the latitude of Eilat. The E Tih cliff is built of hard limestone, layered upon slopes of sandstones. The E Tih cliff is also the southern border of the E Tih Heights, which are the main geomorphological structure in central Sinai. The direction of the E Tih cliff in Sinai in most of its length, is East-West. The meeting area between those 2 big geomorphological structures, which are in perpendicular directions, is characterized by a unique, and also very interesting geomorphological combinations, such as deep canyons with variety of several types of rocks, isolated mountains, and also valleys with several kinds of sandstones [3].

## 2. Methods

In the tour to the mountains of eastern Sinai, that was carried out in March 1981, I also took notes from lectures, that were driven then by the guide of that tour— Timi Ben-Yosef. Timi Ben-Yosef during the 1970's, surveyed that region, and in 1981, he was one of the best experts to that region. The lectures that were given in that preparation tour, were emphasized mainly in the geography and also in the geology of that region. Additionally, in that tour, as well as in the tour to that region with the youth clubs in April 1981, I also took some photos. Most of the geographical data, that I bring here, are about sites, which are located along several routes where we traveled in those 2 tours. Recently, in the year of 2024, I summarized those notes. Some of the photos that were taken in those tours were scanned, also in 2024. I also used for the preparation of that work, the booklet that Timi Ben-Yosef prepared for the participants of those tours. The coordinates of the geographical sites that were used in those tours, were in different maps coordinates. I used in 2024-2025, some maps in order to match between those coordinates, and also the global coordinates of the Google Maps. The coordinates in the following descriptions of travel sites presented here, are in Google Maps global coordinates, which also in some cases, are mentioned in brackets.

## 3. Results & Discussion

### 3.1. The Basin of Wadi Watir

The northern part of eastern Sinai is drained by Wadi Watir. Wadi Watir is the largest wadi in southern Sinai, as it drains, an area of about 4000 square kilometers. The main 2 big tributaries of Wadi Wadir are as follows. 1) Wadi El Butum, which drains some of the eastern parts of the E Tih heights. Wadi El Butum is called after the name of the Atlantic Pistacia trees, which grow in it. Butum in Arabic means: Atlantic Pistacia. Those trees are also relict from earlier periods, in

which the climate of Sinai was more humid. The Atlantic Pistacia, is also part of the Irano Turanian biogeographical region. 2) Wadi El Heisi, which includes also the well called: Bir El Heisi. Close to the intersection between Wadi El Butum and also Wadi El Heisi in the east side of Wadi Watir, there is the mountain called: Jebel Hirta. North of Jebel Hirta, is also the opening of the Wadi Shafala, which includes also a spring called: Ein E Shafala. Some palm trees grow near that spring ([4], pp. 196-200).

Wadi Watir also includes the biggest oasis in eastern Sinai, which is: Ein Furtaga. Ein Furtaga (central coordinates: 29.049°N; 34.556°E) is located about 15 km in the ascent of Wadi Watir, when we start to travel from Nuweiba, in the seashore of the Gulf of Eilat. Ein Furtaga is a spring, which gives water all over the year. Most of that water seep into the subsurface of the river bed of that wadi, and also part of them reach Nuweiba. Those underground water enable the growth of many plants, includes hundreds of palm trees, which also grow in the area between Ein Furtaga and also the opening of Wadi Watir ([4] [5], p. 113).



**Figure 1.** In the Wadi El Ein towards Ein Furtaga. Photographed in November 1978.

Wadi El Ein, is one of the main tributaries of Wadi Watir, which includes also, one of the main unpaved roads in eastern Sinai (**Figure 1**). Wadi El Ein means: the wadi of the spring, where intended in that term to the spring of Ein Um Ahmed ([5], pp. 113-115) (29.057°N; 34.411°E). Wadi El Ein, from Ein Um Ahmed downwards, is also a canyon in red Granite rocks which includes natural pools, with also a spectacular landscape. After that section of the Wadi El Ein, in its lower

part, its wadi bed becomes strait. In that section there is also an additional oasis—Ein Ajula (29.092°N; 34.472°E). The water of Ein Ajula are saline, with also a lot of vegetation ([4] [5], pp. 113-115). The main wadi bed of Wadi El Ein, as well as the wadi beds of some of its tributaries, are from the geomorphological point of view, strait lines in directions of SSW-NNE. Those lines are actually secondary fault lines of the Syrian-African Rift Valley, which part of it in that region is the Gulf of Eilat.

### 3.2. Sites in the Area of the Northern Jebel Baraka

Bir El Biria (29.139°N; 34.540°E), is a fault spring, which is located upon the pe-neplain line. Bir El Biria is located about 2 km south of the peak of the northern Jebel Baraka, within the wadi bed of Wadi El Biria. Wadi El Biria goes from north to south, in a fault line. The rocks in the east bank of that wadi are Granite, while those in the west bank of that wadi are sandstones.



**Figure 2.** In the Arch Canyon. Photographed in March 1981.

The Arch Canyon (29.149°N; 34.536°E, **Figure 2**). The location of the natural arch in that canyon is between E.P. 637 and also E.P. 640, in the southern side of that wadi, near its eastern entrance (29.151°N; 34.536°E). That arch is built of sandstone. The point of that natural sandstone arch, is also the start point of the wadi called: Wadi Halil El Waari, which means the loved wadi of the “wild” person, or the loved wadi of the person who lives in the wilderness. The adjacent wadi west to Wadi Halil El Waari, is Wadi Halil El Rabia, which means the loved wadi of the spring. Rabia is, according to the Bedouin tradition the spring season, when they send their herds to harvest in the wilderness. The Arch Canyon, does not drain to the Wadi Halil El Rabia, but it drains into the Wadi Halil El Waari. Between E.P. 640 and also E.P. 657, there is also a cliff in the SW side of that wadi, which its height is below 20 m, and therefore that cliff, does not appear in the

maps. At coordinates of: 29.153°N; 34.535°E, there is also, an area of nice rock surfaces. At coordinates of: 29.152°N; 34.533°E, there is also a topographic saddle, from which towards the SE, descends the Arch Canyon, towards the NW descends the Wadi Halil El Rabia. About 10 m below that saddle is the contact line between the red colored hard sandstone of the Netafim formation from its lower side, and also the white soft sandstone of the Amir formation from its upper side. While the Netafim formation appears in that region, usually as hard cliffs, the Amir formation appears in that region, usually as low round hills. The sandstones in the Arch Canyon are combined mainly of Quartz.

At coordinates of about: 29.156°N; 34.527°E—a topographic saddle between 3 wadies. In that saddle there can be found, a Bedouin house which was built in the 1960's, by a Bedouin, called Anez (**Figure 3**). From that saddle, about 50 meters towards the SW, we can see a rock, with a shape of a camel. That rock is called by the Bedouins of that region: Hajar E Jamal, which means: the camel rock. Not far from that point is located also Bir E Saura, which is the main water source in that region ([4] [5], pp. 113-115). Around Bir E Saura there was or is, a Bedouin market. Bir E Saura (29.152°N; 34.490°E), is a well, which is located about 2 km SSE from the peak of Jebel E Safra (E.P. 803, coordinates: 29.171°N; 34.484°E). Bir E Saura is dug in red sandstone. Near it there are also some palm trees.



**Figure 3.** Near the house of Anez, below the northern Jebel Baraka. Photographed in April 1981.

The northern Jebel Baraka (E.P. 870, coordinates: 29.157°N; 34.540°E), is located about 5 km - 6 km ENE of Bir E Saura. That mountain is combined of several kinds of sandstones (**Figures 4-6**). In its southern slopes there are also colored canyons which are dug in red sandstones rocks. From the northern Jebel Baraka,

we can see also good observation towards the eastern part of the E Tih cliff, which crosses the Sinai Peninsula from west to east, or from east to west (**Figure 7**). The Wadi Baraka, descends from the northern Jebel Baraka towards NW. E.P. 625, is located about 1 km NE of the peak of the northern Jebel Baraka, at coordinates of:  $29.161^{\circ}\text{N}$ ;  $34.548^{\circ}\text{E}$ —that point, is also possibly the western edge, of a black dyke which crosses in the east-west direction. That dyke, is a negative dyke, which is combined of greyish green sand, encircled by baked sandstones, in a shape of 2 parallel cauliflowers. That dyke reaches the coast of the Gulf of Eilat in its eastern edge.



**Figure 4.** In the area of the white sandstones, below the northern Jebel Baraka. Photographed in April 1981.



**Figure 5.** In the area of the white sandstones, below the northern Jebel Baraka. A view towards Jebel Guna and also Wadi Watir. Photographed in March 1981.



**Figure 6.** Youth of a youth club, use a sandstone valley near the northern Jebel Baraka, as a playground. Photographed in April 1981.



**Figure 7.** A view from the western saddle of the northern Jebel Baraka, towards the E Tih cliff. Photographed in April 1981.

The northern Jebel Baraka is defined in that way, in order to distinguish that mountain from the southern Jebel Baraka, which is located, in a different region, much southern. The southern Jebel Baraka, E.P. 1004, is also combined of white-brown sandstones. The southern Jebel Baraka is located south of the oasis of Ein Hudra, and also is surrounded by sandy valleys. Baraka in Arabic means thin sand ([4], pp. 187-188).

About 3 km east of the E.P. 625, is the peak of Jebel Aradé (E.P. 1020, central coordinates: 29.162°N; 34.581°E, **Figure 8**). Jebel Aradé is actually the eastern point of the E Tih cliff, which its upper layer is combined of hard limestone. The peak of Ras Kheil (E.P. 1001, coordinates: 29.168°N; 34.573°E) is located about 1 km NW of the peak of Jebel Aradé. An ascent called: Naqeb Kheil (the Kheil ascent), leads from the bottom of the E Tih cliff, in that area, about 1 km - 2 km SW of Ras Kheil (29.160°N; 34.561°E), to the peak of Ras Kheil. Wadi Aradé descends from the saddle between Ras Kheil and also Jebel Aradé, towards SW and after-

wards joins Wadi Watir. Wadi El Abraç, descends from Jebel Aradé towards south, and also joins the main wadi bed of Wadi Watir, at Ein Furtaga.



**Figure 8.** A view from the summit of Jebel Aradé towards ESE to the Gulf of Eilat. We can see in that view the tributaries of Wadi Malaha and also Wadi Washwashi. Photographed in March 1981.

### 3.3. Sites in the Area of Wadi Malaha

Part of the camels trail which ascends from the Gulf of Eilat in the wadi bed of Wadi Malaha El Rayan reaches the E.P. 625, which is located about 1 km NE of the peak of the northern Jebel Baraka. Afterwards that trail divides into 3 trails: one of them continues through the Dyke to the Baraka Valley, the second of them goes to Wadi Watir, the third of them continues in Wadi Maatarshi upwards, ascends in Naqeb Maatarshi, and also from that point descends to the upper tributaries of Wadi Watir. Naqeb Maatarshi climbs from coordinates: 29.170°N; 34.604°E, to coordinates: 29.181°N; 34.593°E, to Jebel Maatarshi, which is signed in some maps as Jebel Malaha (**Figure 9**). The term: Jebel Maatarshi, is not found in the maps of that region. It is not clear therefore, whether Jebel Malaha and also Jebel Maatarshi, are 2 different mountains in that region, or alternatively that those sites are the same mountain which is signed in some maps as Jebel Malaha. The peak, of what is signed in some maps as: Jebel Malaha, is at coordinates of: 29.188°N; 34.608°E. According to some records from those tours, if Jebel Malaha and also Jebel Maatarshi, are 2 different mountains in that region, those mountains are adjacent to each other.

Jebel El Asfar means in Arabic: the yellow mountain. It seems, that the location of Jebel El Asfar is somewhere between Jebel Aradé, and also Wadi Malaha. According to ([4], p. 200), Jebel El Asfar is the mountain which is mentioned in some maps, as Jebel E Safra, which its peak is located about 2 km NNW of Bir E Saura. However, according to some different information, Jebel El Asfar should be near the Colors Canyon, which is, in a different area, much eastern from Bir E Saura

(Timi Ben Yosef, lecture information, 1981). That mountain is called in that way, probably because it is combined of white-yellow sandstones. The different colors of the different types of sandstones, can be accounted for, as follows. The red color of the red sandstones comes from Iron oxides, that those sandstones also contain. The black color of the dark sandstones comes probably from Manganese oxides that those black sandstones contain, or also from concentrated Iron oxides. The green color of the green sandstones, comes probably from Copper oxides. The yellow color of the yellow sandstones comes probably from Sulfur oxides, or probably from other Iron oxides, that those sandstones also contain. So it seems that Jebel El Asfar, probably contains also Sulfur minerals.



**Figure 9.** Near Jebel Malaha-Jebel Maatarshi. Photographed in April 1981.

Naqeb El Asfar, which means the ascent to Jebel El Asfar, starts at coordinates of: 29.138°N; 34.593°E. That point is the lower part of that ascent, and is also close to the opening of the Colors Canyon [3], where the Colors Canyon opens to Wadi Malaha ([4], p. 234). The Colors Canyon starts at coordinates of about: 29.150°N; 34.592°E. The lower point of the Colors Canyon, is at coordinates of: 29.142°N; 34.598°E. The Colors Canyon is called in that way, because its rocks are sandstones of several colors. Those sandstones are some multicolored hard sandstones of the Netafim formation ([4], p. 234). *Rhus tripartita* tree (near coordinates of: 29.146°N; 34.581°E, **Figure 10**), grows on hard limestone, about 50 m west of a wadies fork, in Wadi Amudi, that descends from Jebel Aradé towards east.



**Figure 10.** *Rhus tripartita* tree in Wadi Amudi. Photographed in April 1981.

Wadi Malaha is the adjacent big wadi north of Wadi Watir, which its opening is about 10 km - 15 km north of Nuweiba. The 3 big tributaries of Wadi Malaha are: Wadi Malaha El Rayan, Wadi Malaha El Maatarshi, and also Wadi Um Samra. Wadi Malaha El Rayan drains the southern slopes of Jebel Abu Sweira (E.P.1163, coordinates: 29.224°N; 34.622°E). The name: El Rayan comes from that Wadi El Rayan includes water sources. The tributaries of Wadi Malaha El Rayan are the following wadies. 1) The main canyon, which is a canyon dug in sandstone and also in igneous rocks. That wadi starts at the peak of the Jebel Abu Sweira. 2) Wadi Washwashi, which starts at the NE edges of Jebel Abu Sweira. Afterwards that wadi digs into igneous rocks, and also its directions are determined by geological faults—from south to north, then bends towards east, and afterwards goes from north to south, parallel to the main canyon mentioned above (**Figure 11**). Wadi Washwashi includes also the water source of Moyat Washwashi (29.162°N; 34.646°E). 3) The Moyat Malaha tributary, which is dug mainly in igneous rocks. That wadi includes also the 2 water sources of the Lower Moyat Malaha (29.159°N; 34.632°E), and also the Upper Moyat Malaha (29.164°N; 34.629°E). 4. Wadi Fariya, which drains into Wadi Malaha, and which also includes high level groundwater. Those conditions enable the formation, of a small oasis in that wadi. The Fariya Valley, is located at the coordinates of: 29.154°N; 34.628°E.

In Wadi Fariya, goes a track called Naqeb Kuchla, which leads to Wadi Maatarshi. In the Wadi Malaha-Wadi Washwashi area, there are also many steep paths with challenging hiking routes. One of those challenging trails goes through what is called: “The unpassable saddle”, that according to some records from those tours is located between Jebel Malaha, and also Jebel Maatarshi (**Figure 12**). Most of the vegetation in that area appears in the peneplain line, where the Granite is exposed in its lower layer.



**Figure 11.** Above the wadies' fork in the upper canyon of Wadi Washwashi. Photographed in April 1981.



**Figure 12.** In the “unpassable saddle”. Photographed in April 1981.

At coordinates of: 29.155°N; 34.631°E—Hunting positions for Ibexes, that were built by some Bedouins in that region. Those hunting positions were made of sandstones, in shapes of crescents, or of squares. Those hunting positions are also, located on the peneplain line, in the southern bank of Wadi Malaha, above the start point of that canyon.

About 5 km north of Wadi Malaha, is located the southern Wadi Mahash El Asfal. That wadi starts about 3 km ESE of the peak of Jebel Abu Sweira, turns

towards the SE direction, and then also reaches the Gulf of Eilat.

#### **4. Conclusion**

The mountains of eastern Sinai include many interesting travel sites, many of which are geological or geomorphological sites. Since eastern Sinai, is a relatively hot desert, with relatively low average annual precipitation, the vegetation in that region is usually limited to water sources, such as few springs in that region. As a consequence of the geological-geomorphological characteristics of that region, the mountains of eastern Sinai include many steep paths, with also challenging hiking routs.

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#### **Conflicts of Interest**

The author declares no conflicts of interest regarding the publication of this paper.

#### **References**

- [1] Lachish, I. and Meshel, Z. (1982) South Sinai Researches. The Society for Protection of Nature in Israel, 350pp.
- [2] Shmida, A. (2009) Jebel Ram. *Teva Hadvarim*, **245**, 14-24.
- [3] Ben-Yosef, T. (1981) Eastern Sinai. The Society for Protection of Nature in Israel, 28pp.
- [4] Perevolotsky, A. (1979) Eastern Sinai. Ed., Itzhaki, A., *Israel Guide*, Keter Publisher, 185-239.
- [5] Meshel, Z. (1976) Southern Sinai. Second Edition, Hakibbutz Hameuhad Publisher, 288pp.